

MWI 8730.1
REVISION D

EFFECTIVE DATE: September 30, 2004
EXPIRATION DATE: September 30, 2009

MARSHALL WORK INSTRUCTION

QD01

EQUIPMENT LOGS/RECORDS

CHECK THE MASTER LIST at
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VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

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DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		5/14/99	Document converted from MSFC-P10.1-CO1 to a Directive. Previous history retained in system as part of canceled or superseded ISO Document files.
Revision	A	8/18/99	Updated document to reflect new MSFC reorganization. Paragraph 6.2.2.f: changed "S&E Chief Engineer" to "Project Systems Engineer," and changed "Administrative Services Division" to project/quality plan designated record center." Paragraph 6.2.4 was deleted. Paragraph 6.3.h: changed "Administrative Services Division" to "project/quality plan designated record center."
Revision	B	3/6/00	Paragraphs 3.e and 12 changed to update quality records requirements documents using MPG 1440.2.
Revision	C	1/8/02	Document renumbered in accordance with MPG 1410.2. Update title of reference document on page 3. Add clarification to 6.1.3 on page 4 concerning logbook maintenance while applicable hardware is integrated to the next higher assembly. Further define the category of hardware to be tracked in section 1 per paragraph 6.2.2.2 which normally excludes standard off-the-shelf hardware.
Revision	D	9/30/2004	Font to Times New Roman. Change QS01 to QD01. Update MPG's to MPR's in Applicable Documents and subsequent references. Change to shall statements for all mandatory requirements per HQ Rules Review Action. Replace the word logs with logbooks in 1, 6.1.1, and 6.1.2. Clarify references in 6.1.1, 6.3.1, and 6.3.3, that official logbooks are specified by design on the drawings. In 6.1.2 address logbook maintenance until hardware is removed from flight inventory and address logbook closeout and turn in addressed in 6.2.2.6. In 6.2.1.2 remove Office from S&MA reference. In 6.2.2.1 clarify that in process handling and testing is not detailed in logbooks unless specified by design. Clarify recording of as built configuration during the initial assembly in 6.2.2.2 and subsequent updates to configuration in 6.2.2.3. Clarify logbook retrieval post flight on re-flight hardware continuing in flight status.

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1. PURPOSE

To establish a uniform method for the initiation, control, and maintenance of equipment logbooks for certain selected flight hardware and related ground support equipment which is produced or procured for in-house use.

2. APPLICABILITY

This Instruction shall apply to all organizations that initiate and maintain the logbooks when required by the design specification.

3. APPLICABLE DOCUMENTS

3.1 MPR 8060.1, "Flight Systems Design/Development Control"

3.2 MPR 5000.1, "Purchasing"

3.3 MPR 8730.1, "Inspection and Testing"

3.4 MPR 8730.3, "Control of Nonconforming Product"

3.5 MPR 1440.2, "MSFC Records Management Program"

4. REFERENCES

None

5. DEFINITIONS

Responsible Organization (RO). Program-defined directorate, department, and/or office responsible to perform the specified operation, inspection, and test with the initiation and maintenance of the required documentation.

6. INSTRUCTIONS

6.1 Policy.

6.1.1 To assist in obtaining continuous history, traceability, refurbishment, maintainability, and design information; equipment logbooks/records shall be initiated and maintained for items when specified by drawing requirement.

6.1.2 Equipment logbooks shall accompany the items of equipment to which they apply, starting with the initial turnover of the article from the manufacturing organization to the inspection, test, or checkout organization. All subsequent testing, modification, repair/rework, refurbishment, or

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storage, until the item is scrapped, removed from flight inventory, or launched, shall be annotated by the organization conducting the event.

6.1.3 When the drawing specifies a logbook for an assembly, logbooks shall not be established and maintained for components or elements of that assembly unless that component or element drawing specifies its own logbook. Logbooks shall be initiated and maintained for a part number only when specified on its drawing. Logbooks shall be maintained for part numbers specified throughout all subsequent levels of assembly, inspection, testing, checking, refurbishment, storage, and transportation. Upon integration of logbook-controlled hardware, logbook maintenance shall be deferred to the higher level of assembly specified logbook (normally systems level assembly) provided all age/cycle/time critical components are tracked at the integrated level logbook unless otherwise specified by project engineers. Upon disassembly from next higher assembly, the subassembly logbook maintenance shall resume.

6.2 Responsibility.

6.2.1 Design Organizations.

6.2.1.1 Shall specify on the drawing or procurement specification the requirement for an equipment logbook (reference MPR 8060.1). Logbooks shall be required for all time/cycle-critical components.

6.2.1.2 Shall identify prior to critical design review (CDR) components which require a logbook for which direct design responsibility is maintained, including contractor hardware, and develop a list to be provided to the project systems engineer and Safety and Mission Assurance (S&MA) with the following pertinent information:

- a. Component name and part number.
- b. Whether the component is time-critical or cycle-critical.
- c. The maximum useful time/cycle prior to replacement.
- d. Special instructions as required in section 2 of the logbook.

6.2.1.3 Shall perform periodic reviews to determine if the list of components requiring logbooks requires additions or deletions.

6.2.1.4 Shall initiate proper documentation for hardware replacement, service or waive design limit, when an item has exceeded, or is about to exceed, its design limit.

6.2.1.5 Shall ensure that contractual requirements are adequate (reference MPR 5000.1) to provide the proper logbook information for procured hardware by:

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a. Providing the MSFC approved logbook form (MSFC Form 3473) or a requirement for an equivalent contractor form.

b. Assessing the adequacy of the contractor form.

6.2.2 Responsible Organization (RO).

6.2.2.1 Prior to assembly, the RO shall initiate a logbook associated with the generation of the assembly work authorizing document (WAD). RO shall enter the basic part number, name, manufacturer data, WAD, contact, and design information on the front cover of the logbook (reference MPR 8730.1). Unless specified by design, in process handling, testing, or processing during initial assembly shall not be entered into a logbook.

6.2.2.2 After final assembly, the RO shall enter in section 1 the data required to reflect the as-built configuration of the assembly/component for all MSFC Configuration Management (CM) controlled or MSFC contractor CM controlled subassemblies. Detail parts which are standard off-the-shelf hardware (i.e. MIL Spec parts) are not normally listed. Complete the information required on the front cover for engineering configuration [revision, serial number, engineering parts list (EPL) number, applicable engineering orders (EOs), effectivity, reference designation number, and inspection report number (parts tag number)]. The responsible Quality inspection organization shall certify by stamping/signing and dating the bottom right-hand corner of the last page of section 1 of the logbook to signify that the identification data accurately reflects “as-built” configuration of the article. Section 1 configuration status shall not be altered during subsequent hardware modifications due to design changes encountered during system level or environmental testing.

6.2.2.3 The RO shall record each operation as it occurs in section 3/Life History including further changes to configuration after initial assembly which modify the configuration previously certified in section 1. Enter all discrepancy reports (DRs) and that they have been dispositioned (reference MPR 8730.3), Special Inspections, Verification of Manufacturing, Rework, Test, and Retest Operations performed in section 3/Life History. Performing personnel and S&MA shall certify by stamping/signing and dating adjacent to the entry. Also, for each test event recorded, the type of test and the test procedure number and its revision level, as well as the acceptability of the test results, shall be entered in section 4/Test Data. Also, enter variables test data if requested in section 2/Special Instructions.

6.2.2.4 The RO shall review logbooks received and initiate the necessary action to resolve discrepancies or deficiencies noted; audit logbooks prior to shipment of hardware to provide the project systems engineer with accumulative life/cycle data on limited-life items for his/her use in determining which items are to be removed as flight hardware; and ensure that items designated for removal are appropriately tagged.

6.2.2.5 On procured components requiring a logbook, S&MA and the RO shall verify receipt and adequacy thereof.

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6.2.2.6 The RO shall stamp or print “Flight Reject” or “Scrapped Component” or “Removed from Flight Inventory” in red ink on the front cover of all logbooks for which hardware has been permanently rejected for flight or removed from flight inventory, and forward through the cognizant project systems engineer to the project/quality plan designated record center for filing.

6.3 Procedure.

6.3.1 MSFC Form 3473, Log Book, is the official MSFC equipment log and shall be used by all MSFC organizations when invoked by drawing requirement. When contractually approved equivalent log books not formatted per MSFC Form 3473 are furnished with procured hardware, the equivalent log book format shall be maintained by MSFC personnel upon receipt.

6.3.2 The logbook shall be initiated to reflect the as-built status at the time of turn-over of an item for inspection, test or checkout, and thereafter shall be maintained in accordance with the instructions in the logbook.

6.3.3 When required by design, the logbook shall be required as part of the received data package at MSFC. The requirement for furnishing the logbook shall be specified by the contract or procurement drawing.

6.3.4 Logbooks shall be kept in a current status and shall accompany at all times the hardware item for which they were intended.

6.3.5 In the event of loss of the original logbook, the organization having possession of the hardware at the time of loss shall initiate a new copy and complete the logbook to the maximum extent possible. An entry shall be made in the new copy denoting the approximate date of loss and initiation of the new one.

6.3.6 The transmitting organization shall ensure that the logbook is up-to-date before sending hardware to another organization.

6.3.7 Logbooks for hardware items returned from out-of-house for failure analysis, repair, or rework shall be maintained in accordance with this Instruction.

6.3.8 Upon completion of the mission, the delivered logbooks for re-flight hardware for which MSFC is responsible shall be requested by project personnel to be returned from the launch site to the cognizant design organization for review, then re-united with the re-flight hardware as long as hardware remains in flight status.

7. NOTES

None

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8. SAFETY PRECAUTIONS AND WARNING NOTES

None

9. RECORDS

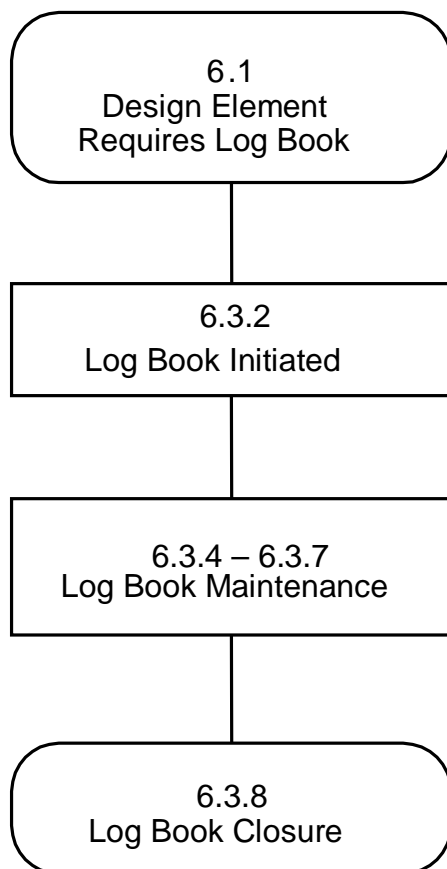
Log Book, MSFC Form 3473, retention requirements beyond the body of this document shall be specified by the responsible organization associated with the project requirements for the control of records (reference MPR 1440.2).

10. PERSONNEL TRAINING AND CERTIFICATION

None

11. FLOW DIAGRAM

See following page.



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12. CANCELLATION

MWI 8730.1C dated January 8, 2002

Original signed by
Robin N. Henderson for

David A. King
Director